

CLAIMS

What is claimed is:

1. An absorbable screw fastener comprising:

5 a body portion defining a longitudinal axis and having a proximal end and a distal end, the body portion having a helical thread formed thereon, the helical thread having a first distance; and

10 a head portion disposed at the proximal end of the body portion, the head portion having driver receiving structure formed therein for transmitting both linear and rotational motion to the body portion, the head portion having an outer diameter substantially equal to the first distance of the helical thread.

2. The absorbable screw fastener of claim 1, wherein said center shaft is tapered from a narrow distal end to a larger proximal.

15 3. The absorbable screw fastener of claim 1, wherein said driver receiving structure further defines a substantially flattened surface formed in the outer radial surface of the head portion.

4. The absorbable screw fastener of claim 3, wherein the substantially flattened surface extends to at least a portion of the outer radial surface of the thread.

20 5. The absorbable screw fastener of claim 1, wherein the absorbable screw fastener is formed of at least one material selected from the group consisting of L1, L4, PGA, PGB, and PLA.

6. The absorbable screw fastener of claim 1, wherein said distal end of the body portion is blunt.

7. The absorbable screw fastener of claim 1, wherein the land of the thread is substantially perpendicular to the longitudinal axis.

25 8. The absorbable screw fastener of claim 1, wherein a distance of the thread is substantially enlarged.

9. The absorbable screw fastener of claim 1, wherein the distance of the head portion is about 3.8 mm.

10. The absorbable screw fastener of claim 1, wherein a height of the head portion is about 1.5 mm.

5 11. The absorbable screw fastener of claim 1, wherein a length of the body portion is about 5mm in length.

12. The absorbable screw fastener of claim 1, further including a lumen extending through an entire length thereof.

10 13. The absorbable screw fastener of claim 12, wherein said body portion has a circular cross section.

14. A method of inserting an absorbable screw fastener of claim 1, the method comprising the steps of tapping the target tissue with a pilot, and installing the absorbable screw fastener by applying linear and rotational force on the head portion.

15 15. An instrument for inserting an absorbable screw fastener, the instrument comprising:

a distal portion having an elongated outer tube;

a proximal portion having a trigger mechanism; and

a driver/torque subassembly disposed within the outer tube and being movable relative to the outer tube.

20 16. The instrument of claim 15, wherein the outer tube defines a crenellated tip.

17. The instrument of claim 15, wherein the trigger mechanism comprises a ratchet mechanism.

25 18. The instrument of claim 15, wherein the driver/torque sub-assembly defines two flexible tabs in the distal end of the sub-assembly.

19. The instrument of claim 15, wherein the outer tube is biased to a distally advanced position.

20. The instrument of claim 15, further comprising a pilot disposed within the outer tube, the pilot having a tapered surface on its distal end.

5 21. The instrument of claim 15, further comprising a fastener retainér dimensioned to receive fasteners.

22. An absorbable screw fastener and instrument for inserting the absorbable screw fastener, comprising:

10 an instrument having an outer tube on a distal end and a trigger mechanism on its proximal end; and

an absorbable screw fastener having a body portion and a head portion disposed at the proximal end of the body portion, the fastener being inserted on the distal end of the instrument, the head of the absorbable screw fastener having a driver receiving configuration formed therein for transmitting both linear and rotational motion to the body portion.

23. An absorbable screw fastener comprising:

a body portion defining a longitudinal axis and having a proximal end and a distal end, the body portion having a helical thread formed thereon, the helical thread having a first distance; and

20 a head portion disposed at the proximal end of the body portion, the head portion having driver receiving structure formed therein for transmitting rotational motion to the body portion, the head portion having an outer diameter substantially equal to the first distance of the helical thread.

25 24. The absorbable screw fastener of claim 23, wherein the driver receiving structure further defines a slot formed in the outer radial surface of the head portion.

25 25. The absorbable screw fastener of claim 24, wherein the slot extends the entire length of the screw fastener.

26. The absorbable screw fastener of claim 25, wherein the absorbable screw fastener is formed of a material selected from the group consisting of L1, L4, PGA, and PGB.

27. The absorbable screw fastener of claim 23, wherein the distal end of the body portion defines a distal surface which is angled with respect to the longitudinal axis.

28. The absorbable screw fastener of claim 27, wherein the distal surface of the distal end of the body portion is angled at about 5° to about 15° with respect to an axis which is perpendicular to the longitudinal axis.

29. The absorbable screw fastener of claim 23, wherein the head portion defines a distal surface which is angled with respect to the longitudinal axis.

30. The absorbable screw fastener of claim 29, wherein the distal surface of the head portion is angled at about 5° to about 15° with respect to an axis which is perpendicular to the longitudinal axis.

31. The absorbable screw fastener of claim 30, wherein the distal surface of the distal end of the body portion is angled at about 5° to about 15° with respect to an axis which is perpendicular to the longitudinal axis.

32. The absorbable screw fastener of claim 31, wherein each slot formed in each thread includes at least one of a radiused leading edge and a radiused trailing edge.